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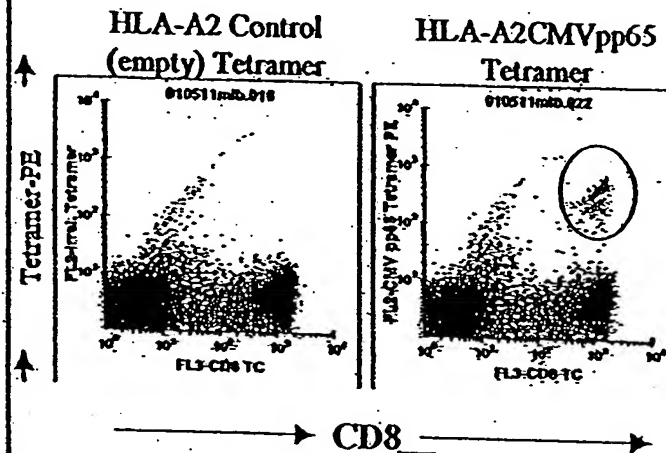
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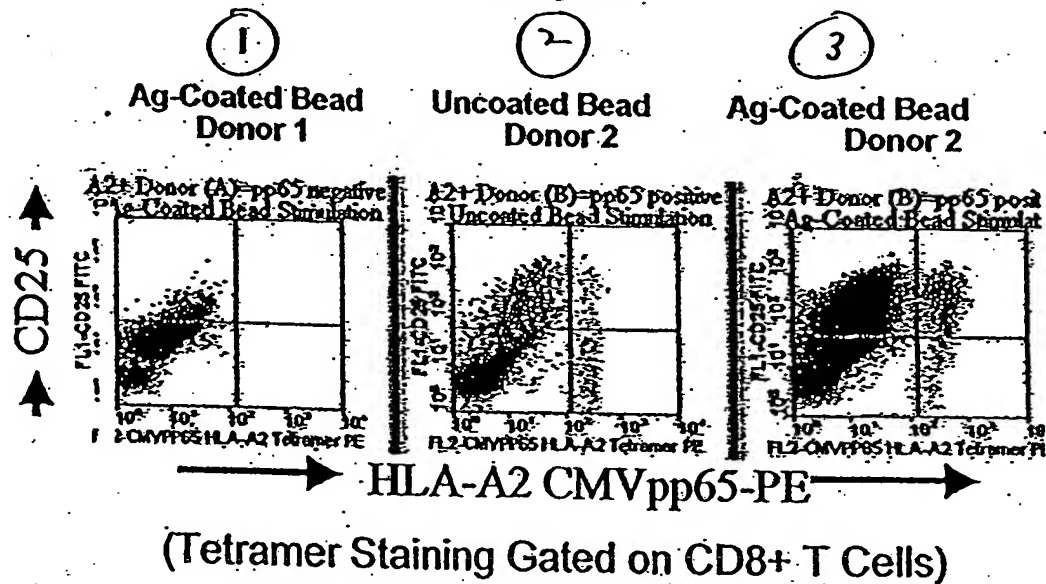
# Flow Cytometric Analysis of HLA-A2+ Donor T Cells for HLA-A2 CMVpp65+ T Cells: Day 0 of Culture



Human PBMC were screened for HLA-A2 positivity. HLA-A2+ donors were screened with control (empty) HLA-A2 tetramers and CMVpp65 loaded tetramers. In the donor shown above, approximately 3% of the CD3+CD8+ express TCR specific for HLA-A2 CMVpp65.

FIG 1

## Flow Cytometric Analysis of CD25 Expression on HLA-A2 CMVpp65+ T Cells: Day 10 of Culture



PBMC were activated with CMV antigen (coated onto paramagnetic beads) and by day 10 of culture, many cells are shown to be CD25 (IL-2R) positive; and all of the HLA-A2 CMVpp65+ T cells are expressing high levels of CD25, indicating activation (right panel). Controls include the same donor cells treated with uncoated (antigen-negative) beads (middle panel), or an HLA-A2+ donor (donor 1) that did not show detectable tetramer+ cells at day 0 and was serologically negative for CMV (left panel). These data indicate that tetramer approaches can be effectively used to track antigen-specific T cells and their relative state of activation.

## Title: COMPOSITIONS AND METHODS FOR ELIMINATING UNDESIRABLE SUBPOPULATIONS OF T CELLS IN PATIENTS WITH IMMUNOLOGICAL DEFECTS RELATED TO AUTOIMMUNITY AND ORGAN OR HEMATOPOIETIC STEM CELL TRANSPLANTATION

Inventors: Ronald Berenson et al.

Docket No.: 980034.422C1

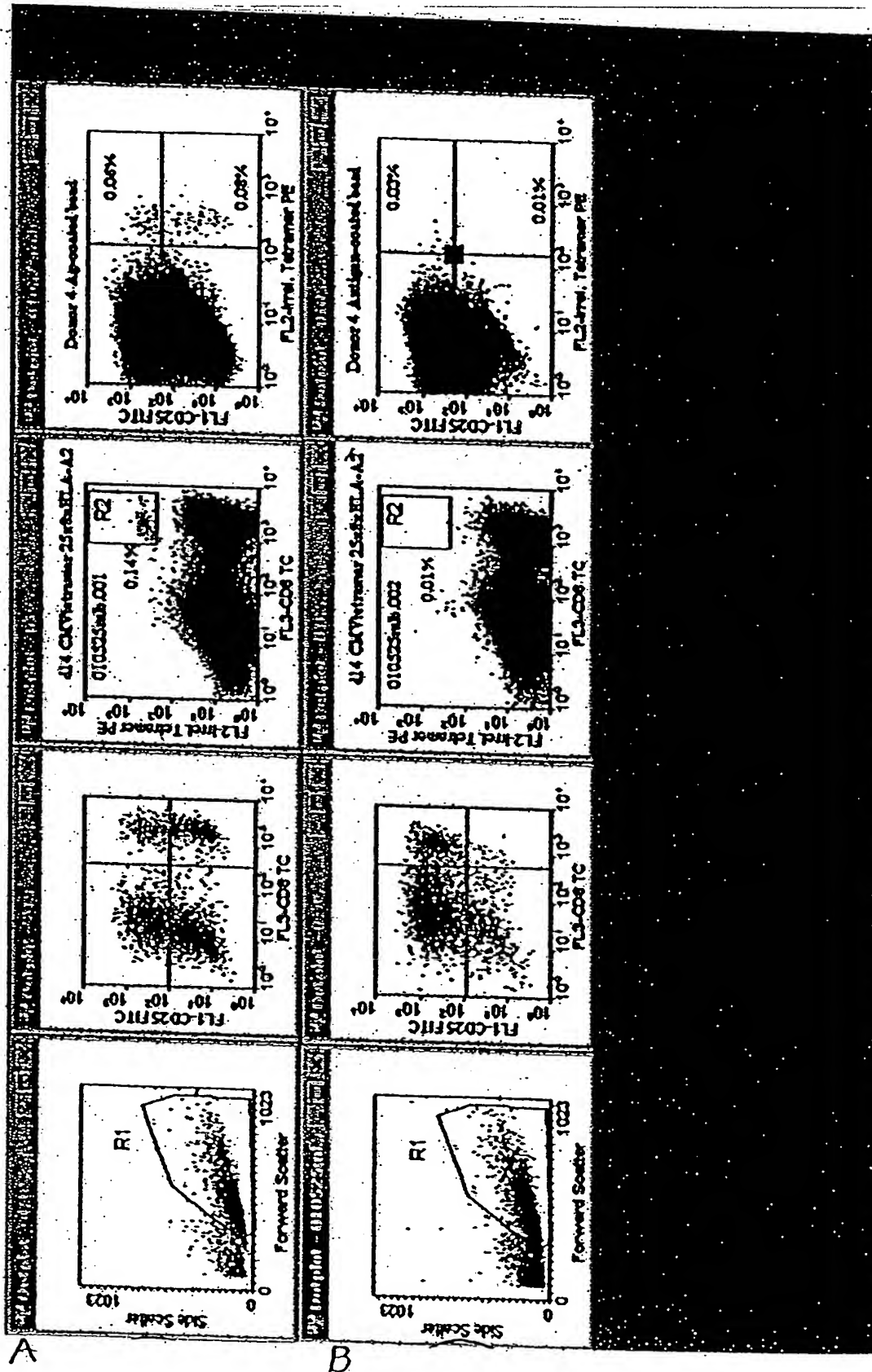


FIG 3

Title: COMPOSITIONS AND METHODS FOR ELIMINATING UNDESIRABLE SUBPOPULATIONS OF T CELLS IN PATIENTS WITH IMMUNOLOGICAL DEFECTS RELATED TO AUTOIMMUNITY AND ORGAN OR HEMATOPOIETIC STEM CELL TRANSPLANTATION

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Mixing Xcellerated T Cells with Autologous B-CLL Leukemic Cells Results in the Rapid Upregulation of Key Immunological Effector Molecules

Day 12 Xcellerated T Cells Co-cultured 24 hours with autologous leukemic B Cells

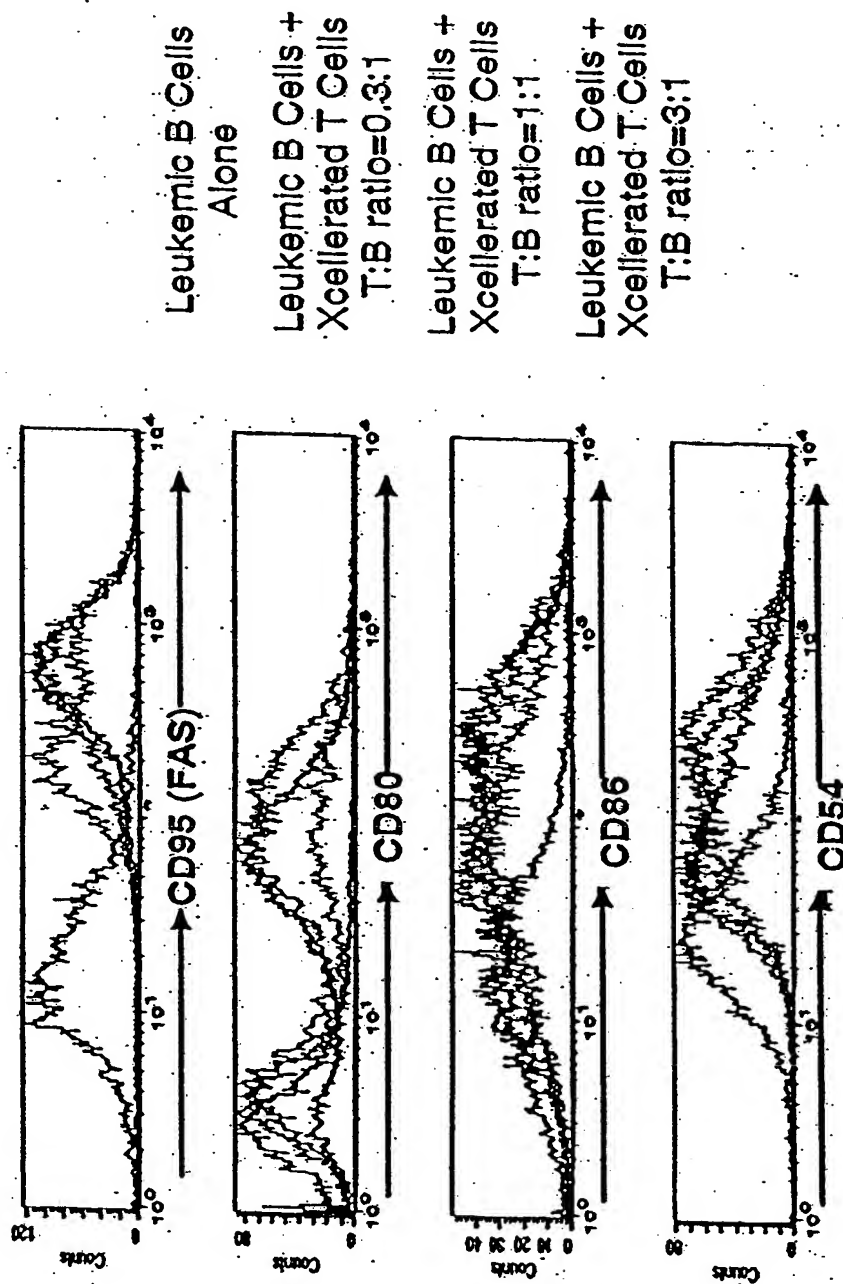


FIG 4

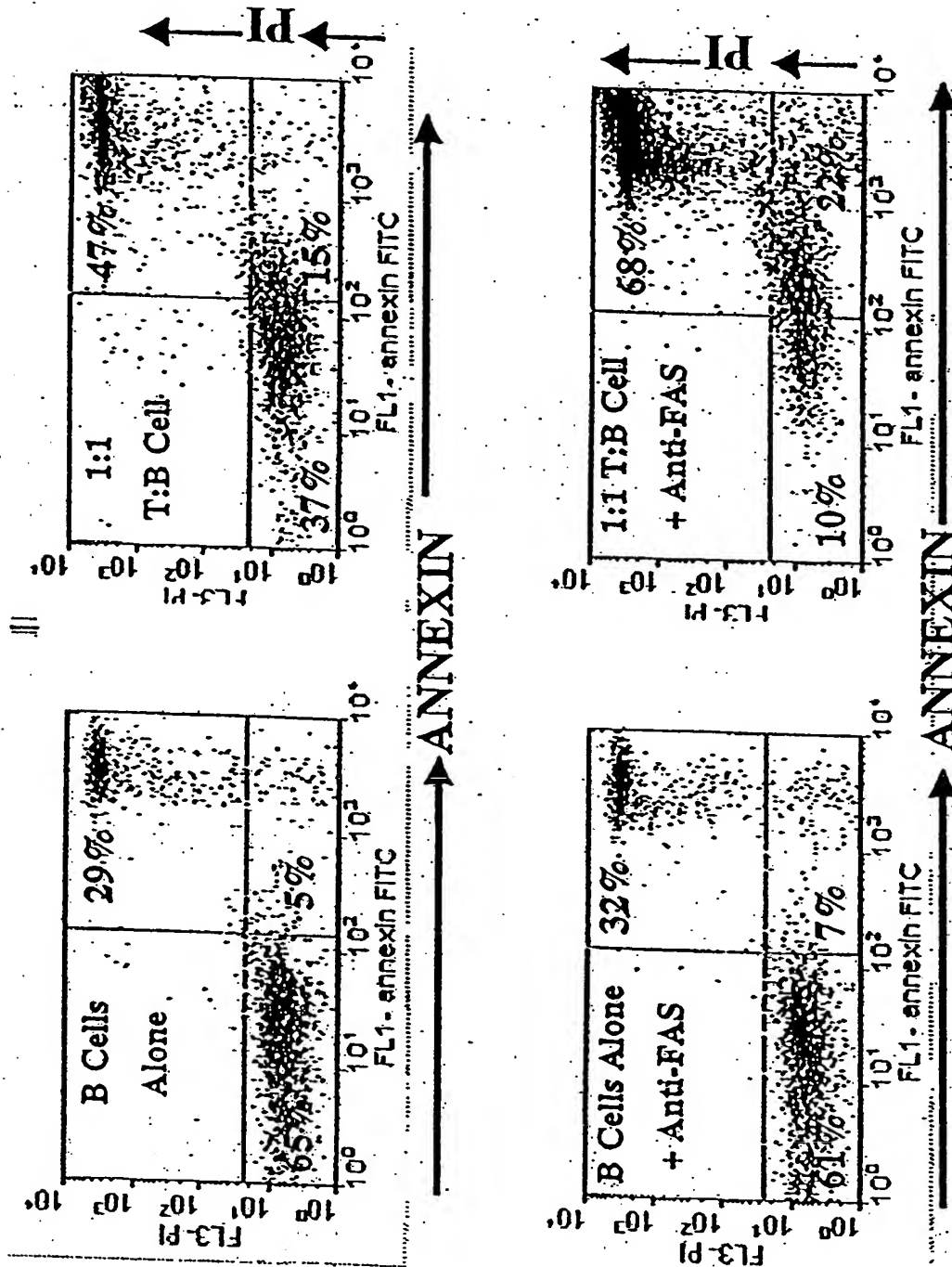


FIG 5

# T Cells Grow and Tumor Cells Are Eliminated During the Xcellerate Process

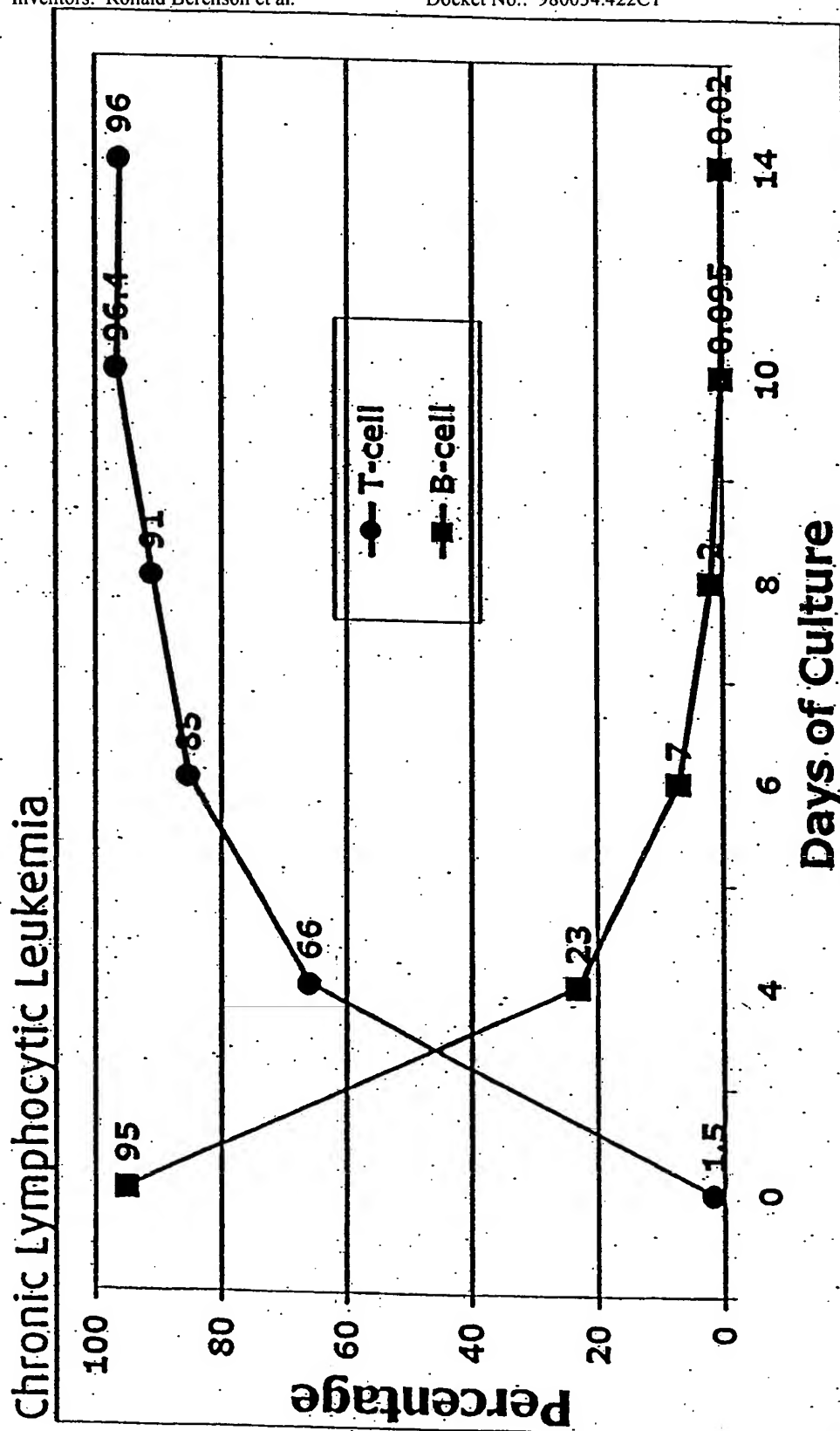


FIG 6

Title: COMPOSITIONS AND METHODS FOR ELIMINATING UNDESIRE SUBPOPULATIONS OF  
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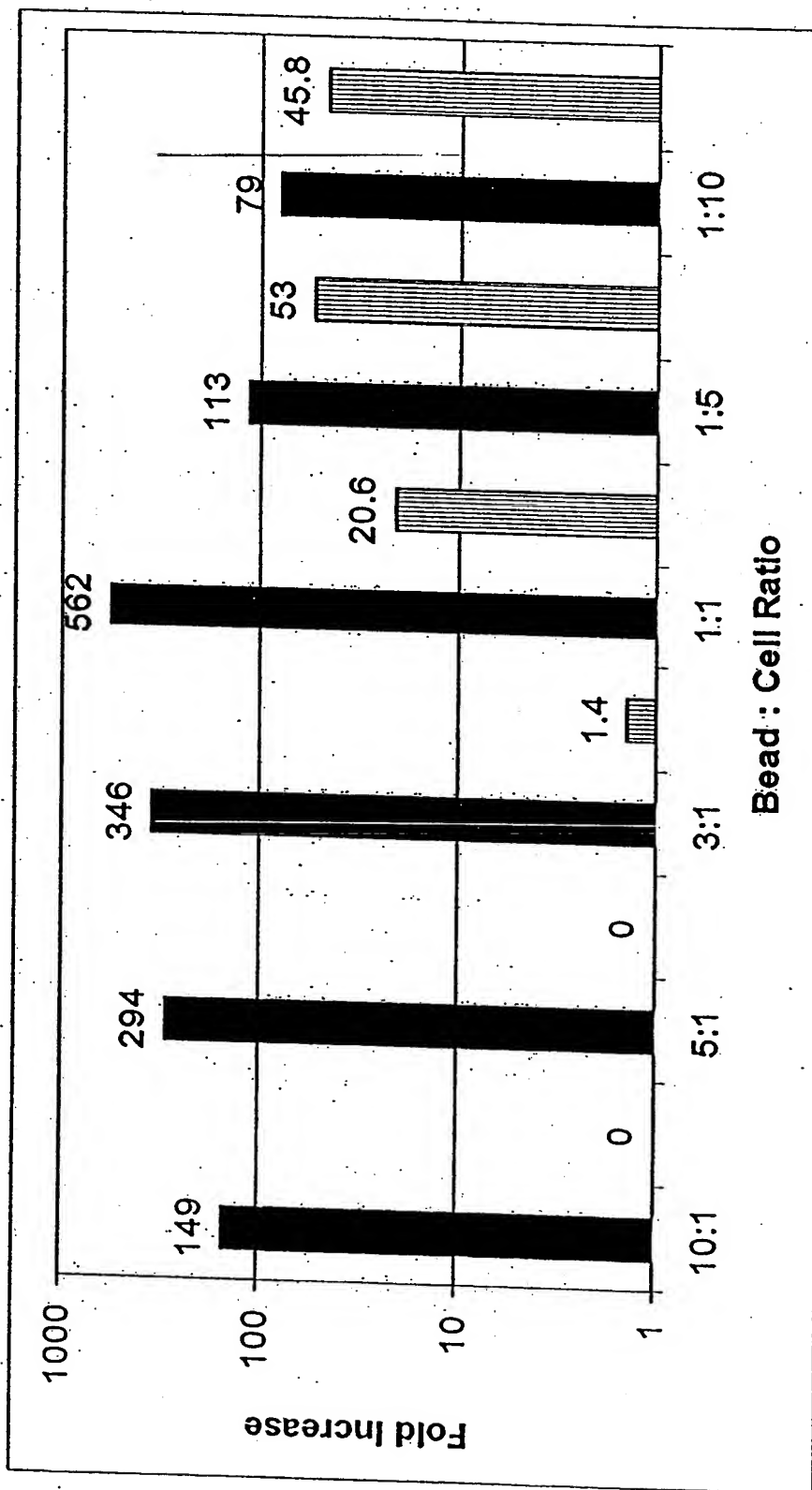


Fig. 7



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Xcellerate Process Restores Healthy T Cell Repertoire  
Rheumatoid Arthritis Patient

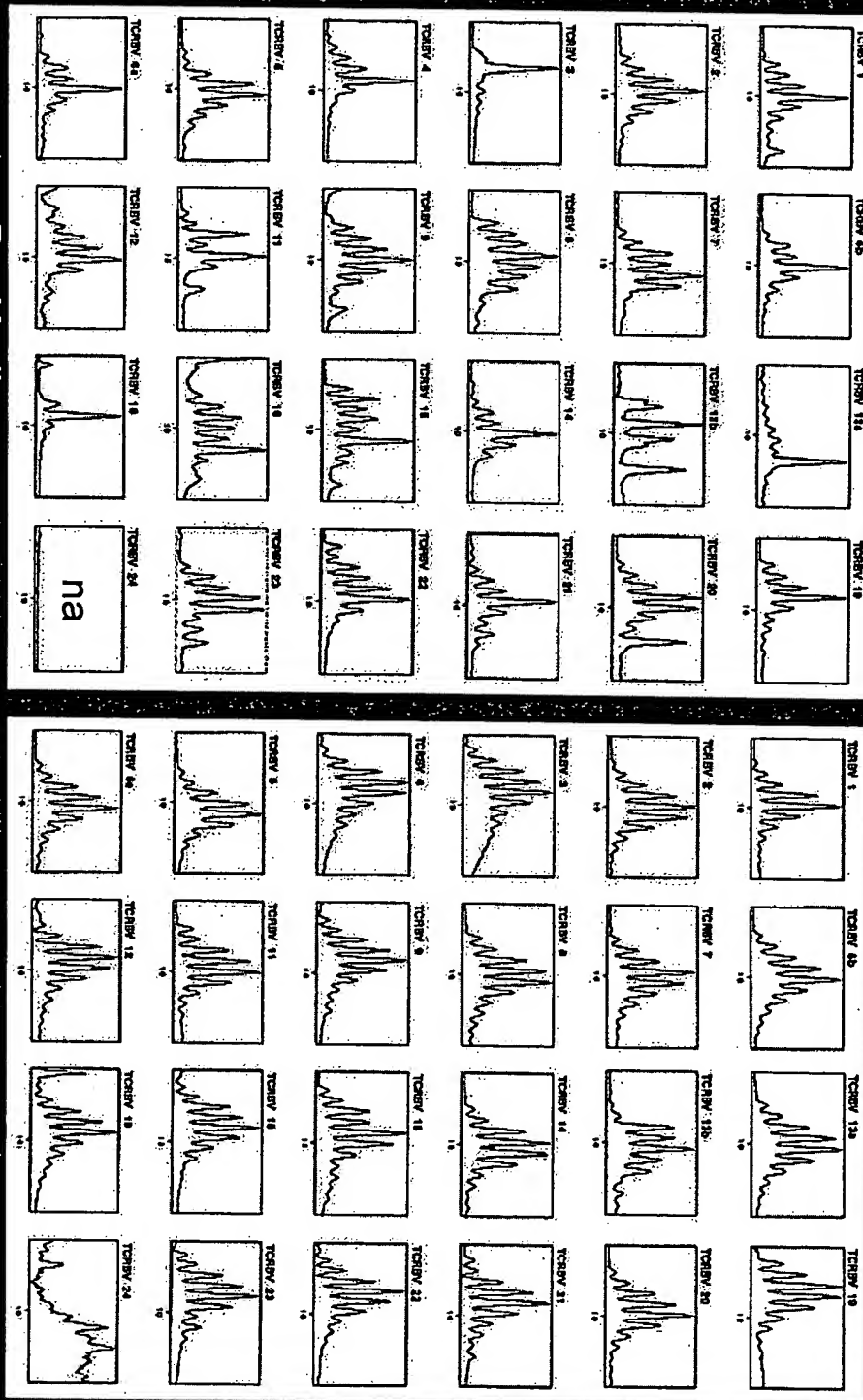


Fig. 8

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# Autoimmune Patients' Xcellerated T Cells Exhibit Th1 Phenotype Peak Cytokine Levels

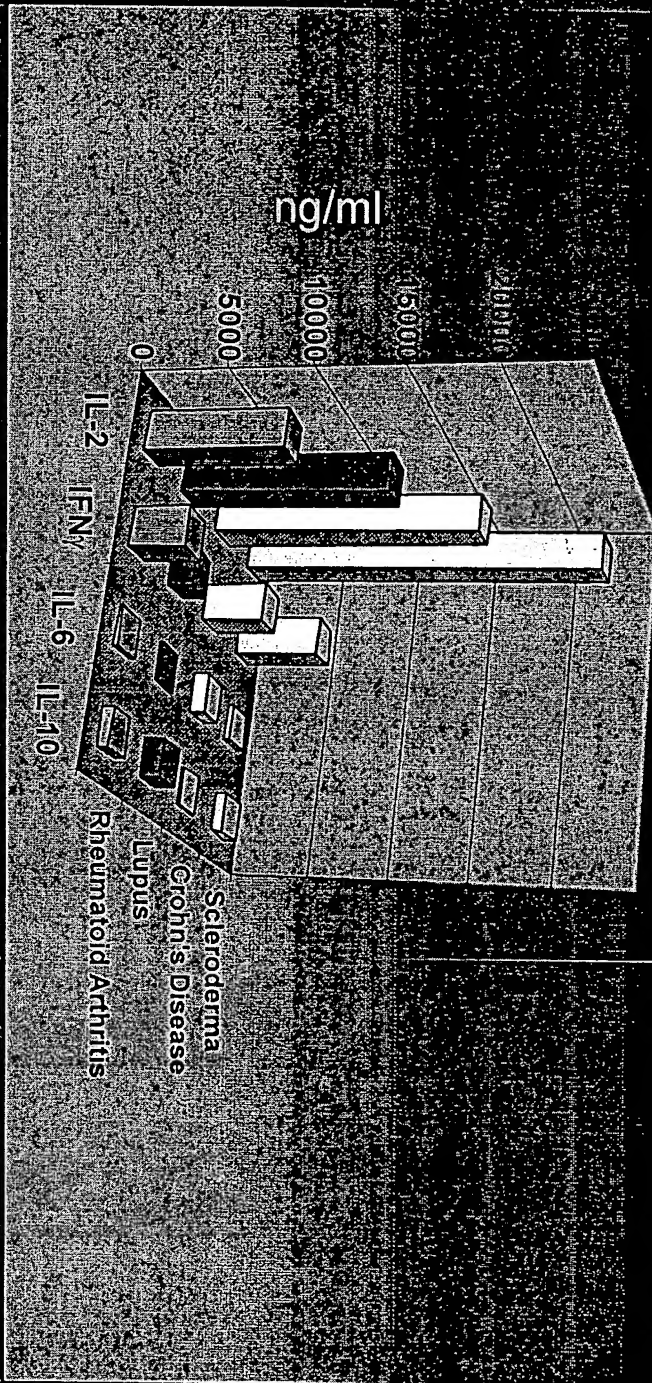


Fig. 9

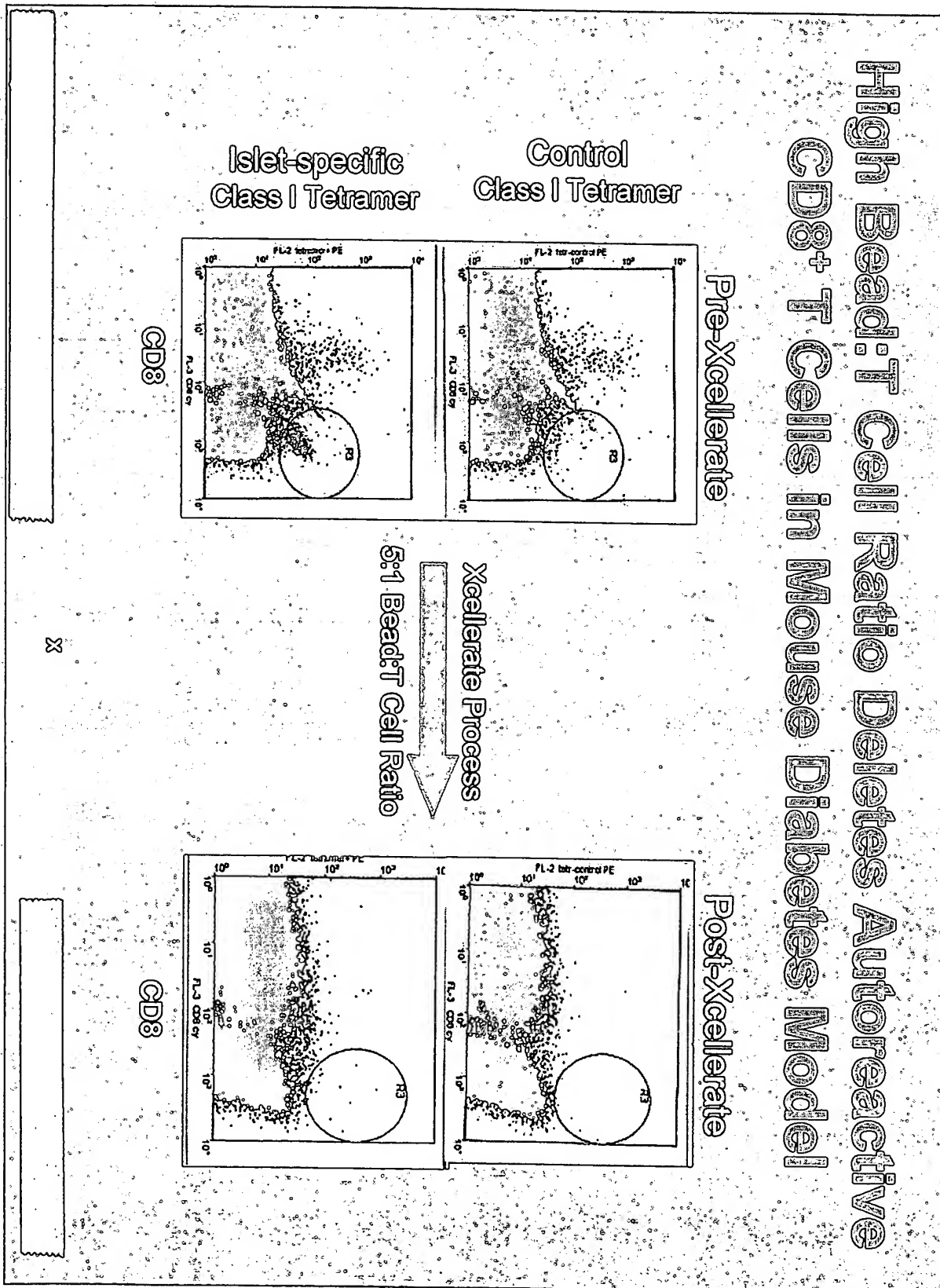


Fig. 10